REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

At the outset, the Applicants wish to thank the examiner for the courtesy shown to their representative during a telephone interview on September 16, 2009. The participants were Examiner Mehmood Khan, SPE Lester Kincaid and David Ward, Reg. No. 45198. A summary of the substance of the claims, issues and prior art discussed during the interview is included in the following.

Claims 19-27 have been canceled in favor of new claims 28-36. Support for the subject matter of the new claims is provided for example in original claims 1-9 and paragraphs [0060]-[0062], [0064], and [0082]-[0084] of the published specification. (It should be noted that references herein to the specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.) The amendments were not presented earlier due to Applicants' current decision to amend the claims.

Claims 19-27 were rejected, under 35 USC §103(a), as being unpatentable over Frodigh et al. (US 5,726,978) in view of Terry (US 2004/0009786). To the extent that these rejections may be applied against the new claims presented herein, the Applicants respectfully traverse as follows.

Claim 28 recites subject matter of claim 19 more broadly and defines a radio communication apparatus that: (1) selects a plurality of received OFDM subcarriers of higher reception quality, (2) generates one channel quality indicator (CQI) reflecting the reception quality of all the selected subcarriers, and (3) reports the generated CQI and information

indicating the selected subcarriers to a communicating party. The claimed subject matter provides an advantage of reducing the number of bits to transmit when reporting information about the reception quality of a plurality of subcarriers (see specification page 7, lines 2-6 and 20-23).

The Final Rejection proposes that Frodigh discloses the Applicants' claimed subject matter of generating one CQI reflecting the reception quality of all selected subcarriers (see Final Rejection page 3, lines 12-15). More specifically, the Final Rejection proposes that Frodigh discloses averaging carrier-to-interference (C/I) measurements of multiple subcarriers (see the Final Rejection at page 2, second sentence of third paragraph).

However, the Applicants note that Frodigh discloses that a "link receiver measures C/I on each of the subset of M carriers" (see Frodigh col. 11, lines 4-5, and col. 14, lines 13-14, emphasis added) and "averages the results for each subcarrier" (see Frodigh col. 14, lines 14-15, emphasis added). And the Final Rejection acknowledges that Frodigh discloses averaging multiple C/I measurements over time for a single carrier and doing such for each of a plurality of subcarriers by stating "Frodigh discloses C/I measurements on the [sic] each of the set of M subcarriers and averaging the results" (see Final Rejection page 2, lines 2-3 of third paragraph). Stated more simply, the Final Rejection states that Frodigh discloses taking multiple C/I measurements (i.e., the Final Rejection identifies the C/I measurements in a plural rather than singular sense) on each subcarrier and averaging the results.

Thus, the Final Rejection acknowledges that Frodigh discloses averaging, over a period of time, the C/I measurements of a single subcarrier taken at different points in time to produce an average C/I value for this subcarrier over the time period of the measurements. Thus, Frodigh

discloses averaging the C/I measurements of a single subcarrier taken over a period of time, whereas the Applicants' claimed subject matter is directed to generating one CQI reflecting the reception quality of all selected subcarriers.

Frodigh discloses that another subcarrier has C/I measurements taken over a period of time and the C/I measurements of this other subcarrier are averaged. However, a separate average is generated for each of two subcarriers. No average of the two measurements is obtained. That is, Frodigh does not disclose averaging the value of a single C/I measurement taken of a first subcarrier with the value of a single C/I measurement taken of a second subcarrier, contrary to the proposal in the Final Rejection (see Final Rejection page 2, lines 4-5 of third paragraph). And this reasoning holds without regard to whether the M subcarriers disclosed by Frodigh are limited to two subcarriers (i.e., M=2) or are greater than two subcarriers (i.e., M > 2).

Furthermore, Frodigh's calculated average is a time-domain average, whereas the Applicants' claimed subject matter of generating one CQI reflecting the reception quality of all selected subcarriers is a characterization of the frequency-domain. Considering an exemplary, non-limiting, embodiment of the Applicants' claimed subject matter, the one CQI represents an average of the reception quality of all selected subcarriers. Since each subcarrier has a different frequency, the average is obtained with respect to the frequency domain. Frodigh's disclosure of calculating an average value based on measurements taken at different times for a single subcarrier and averaging the measurements is necessarily a time-domain average. Thus, Frodigh's time-domain average differs from the frequency-domain average obtained with the Applicants' claimed subject matter.

Moreover, Frodigh discloses that the C/I measurement or average C/I measurement for each subcarrier is used to determine whether the subcarrier will be replaced with an unused subcarrier having better reception quality (see Frodigh col. 12, lines 17-21, and the Abstract, last sentence). This operation would not be possible if the C/I measurements for all subcarriers were averaged to produce a single value, as proposed in the Final Rejection. Stated another way, it is not possible to determine which of a plurality of subcarriers has poor reception quality, relative to other subcarriers, from a value obtained by averaging the C/I measurements of a plurality of subcarriers. Instead, such a determination would require that the C/I measurement or time-average C/I measurement of each subcarrier be compared to the C/I measurements of the other subcarriers.

It is noted that Terry is not cited in the Final Rejection for supplementing the teachings of Frodigh with respect to the above-mentioned subject matter distinguishing claim 28 from Frodigh's disclosure.

Accordingly, the Applicants respectfully submit that even if the teachings of Frodigh and Terry were combined as proposed in the Final Rejection, the result would lack at least the above-discussed features of claim 28, and thus, these references, considered individually or in combination, do not render obvious the subject matter defined by claim 28. Independent claims 35 and 36 similarly recite the above-mentioned subject matter distinguishing apparatus claim 28 from the applied references, although claim 35 does so with respect to a method. Therefore, allowance of claims 28, 35, and 36 and all claims dependent therefrom is deemed to be warranted.

During the interview, the examiner stated his belief that Frodigh's OFDM system dynamically assigns a user to different subcarriers during a call connection. Based on this belief, the examiner proposed that Frodigh's system must necessarily average the C/I measurements, of a user call connection, taken for multiple subcarriers.

The Applicants submit that Frodigh merely discloses the manner for changing a subcarrier assignment. As discussed above in detail, Frodigh takes multiple C/I measurements of a single subcarrier; if the subcarrier has poor quality, as determined from the average C/I, then Frodigh's system replaces this subcarrier with a better quality subcarrier.

Moreover, the prospect that a user call connection is dynamically assigned to different subcarriers does not preclude taking multiple C/I measurements of this call on a single subcarrier. Nowhere does Frodigh disclose taking a C/I measurement on each of multiple subcarriers and averaging them, as proposed by the examiner. Instead, as discussed above, Frodigh specifically discloses that all of the averaged C/I measurements are taken with respect to a single subcarrier.

Applicants note that the Final Rejection proposes that Applicants argued in their Response, dated April 8, 2009, that "Frodigh does not disclose [that] one result is generated" (see Final Rejection page 2, second paragraph). To the contrary, the Applicants did not make such an argument.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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